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TAGS: ENRG SENV EAID
SUBJECT: LETTING OFF STEAM: ENERGY AND ENVIRONMENT
PARTNERSHIP WITH CENTRAL AMERICA ORGANIZES VI REGIONAL FORUM ON GEOTHERMAL POWER GENERATION

- Summary: The VI Regional Forum for the Energy and Environment Partnership with Central America, a 2002 World Summit on Sustainable Development (WSSD) initiative, was held in Managua October 5-6. The Forum focused on opportunities for sustainable development and energy diversification linked to geothermal power generation. The region is barely tapping its geothermal potential, where ill-fitting legal regimes, limited technical capacity and biodiversity concerns frustrate further investment. Nevertheless, regional and international organizations are making resoures available to stimulate further activitiy in the field. End summary.
- $\P2$ . Regional Environmental Assistant (REA) attended the VI Regional Forum for the Energy and Environment Partnership with Central America entitled "Strategic Impact of Geothermal Energy and other Renewables in Central America", held October 5-6 in Managua, Nicaragua. The forum delivered an overview of Central America's sources for electricity and contrasted current installed capacity for geothermal energy production with the latest estimates on the region's geothermal potential. Presentations touched on the benefits of the geothermal resource; existing barriers for geothermal projects; and examples of existing financing mechanisms for geothermal and other renewable energy production. Countries were encouraged to showcase their geothermal energy success stories.

Partnership Background

The Ministry of Foreign Affairs of Finland, the General Secretariat for the Central American Integration System (SG-

SICA) and the Central American Commission for Environment and Development (CCAD) launched the Energy and Environment Partnership with Central America during the Johannesburg 2002 WSSD. The partnership's main objective is to encourage governments and the private sector to promote the use of renewable energy resources in satisfying the energy needs of the isthmus, thereby contributing to sustainable development, the reduction of greenhouse gases, and mitigating the impact of global climate change.

Regional Electrical Power Generation

14. (Energy production from renewable and nonrenewable sources throughout the region, expressed in GWh (giga watts per hour):

Country	Hydro	Wind	Thermal	Geothermal/ Biomass	Total
Belize	88	0	73	19	180
Costa Rica	5,970	259	134	1,121	7,484
El Salvador	1,206	0	1,863	907	3,976
Guatemala	2,264	0	3,314	194	5,772
Honduras	1,611	0	2,465	5	4,081
Nicaragua	190	0	1,908	189	2,287
Panama	2,501	0	2,643	0	5,144
REGION	13,830	259	12,400	2,435	28,924

¶5. Comparison of (approximate) estimated and installed capacity for geothermal production in Central America.

(Both Estimated Capacity (EC) and Installed Capacity (IC) figures are given in mega watts (MW))  $\,$ 

Country Geothermal (approximate)

	EC (MW)	IC (MW)
Belize	N/A	N/A
Costa Rica	7,400	1,750
El Salvador	3,650	1,500
Guatemala	4,800	300

 Honduras
 1,250
 0

 Nicaragua
 9,900
 750

 Panama
 400
 0

## Benefits of the Geothermal Resource

- 16. Participating countries were encouraged to showcase their geothermal success stories, which were frequently linked to local development opportunities. Benefits associated with geothermal energy included its high use factor due to its local, reliable availability; reduced fossil fuel reliance, energy imports, and greenhouse gas emissions; and its potential for multiple uses, including agro-industrial processes. Highlighted projects included:
- -- Guatemala's Agroindustrias La Laguna, which used geothermal heat to dehydrate fruit. General Manager Luis Arturo Merida explained the process that won La Laguna CCAD's Environmental Innovation Award for Central America.
- -- Costa Rica's Miravalles Geothermal Plant, which supplied the electrical grid with 15.4% of its power.
- -- The many geothermal projects of LaGeo, El Salvador's only geothermal operator, generating 22.8% of locally-produced electricity.
- -- Polaris Energy Nicaragua's plan to more than double its geothermal production to 66 MW. Polaris estimated that the additional production would boost geothermal's contribution to Nicaragua's power mix from 9 to 29 percent.

## Barriers Affecting Geothermal Energy

17. Participants frequently cited as key obstacles the lack of coordination among decision makers at a governmental level and lack of familiarity with the legal framework at national levels. The region needs to develop its limited expertise in the field. With little awareness of potential multiple uses of geothermal energy, the private sector was not likely to link tourism, agro-industry or other opportunities to geothermal production. Without a Regional Renewable Policy, there was little incentive to incorporate geothermal energy's social, strategic and environmental benefits into government or private sector decision-making. In some countries, like Costa Rica, prime sites for geothermal development lay within protected areas, and therefore cannot be developed under current law.

## Finance Mechanisms for Renewable Energy Production

- 18. Representatives from the Central American Bank for Economic Integration (Banco Centroamericano de Integracion Economica BCIE), from E + Co Capital, and from the Andean Development Corporation (Corporacion Andina de Fomento CAF) made brief presentations on different finance mechanisms.
- -- BCIE presented its strategy and investment plan for 2005-2010, which included the following focus areas for financing: efficiency and rational use of energy, diversification of energy sources, energetic integration, the search for renewable sources, contamination and environmental risk, and institutionalism. BCIE planned to create a trust fund for electric energy savings, jumpstart a Central American Emergency Energy Plan, and develop policy incentives to encourage better efficiency and energy savings.
- -- E + Co Capital discussed the Central American Renewable Energy and Cleaner Production Facility (Facilidad Centroamericana para Energia Renovable y Produccion mas Limpia CAREC) it administers. CAREC planned to invest US 20 million in clean energy projects in the region, focusing on renewable energy generation and energy efficiency and cleaner production. It proposed to invest in 20 to 25 small and medium enterprises, with up to US \$3 million financing per project.
- -- CAF, a multilateral financial institution that promotes regional integration and the sustainable development of its shareholder countries and regional integration, presented its Latin American Carbon Program (Programa Latinoamericano de Carbon-PLAC). PLAC's focus areas were renewable energy, massive transportation projects, energy efficiency, capture and use of methane in industry and landfills, and fuel transformation/change. It sought to identify clean development mechanism opportunities; aid in developing purchasing agreements, individual carbon sales, and risk profiles; and facilitate access to funds for technical training and other financing services.
- 19. Power point presentations (the source for the data

provided) and the participant list are available at www.sgsica.org/energia. Please direct further questions or comments to Cinthya Alfaro, Environmental Analyst for the Regional Environmental Hub for Central America and the Caribbean, at alfarocg(at)state.gov, or 506-519-2392.

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